

## THE OCCURRENCE OF *LEMNIUS* DISTANT (HEMIPTERA:LYGAEIDAE) IN AUSTRALIA, WITH DESCRIPTIONS OF TWO NEW SPECIES

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### ABSTRACT

The genus *Lemnius* (Rhyparochrominae:Drymini), previously known from Sri Lanka, Burma and the Philippines, is recorded from Queensland, Australia, with the description of *L. monteithi* sp. nov. and *L. terraereginae* sp. nov. A key is provided to the species of *Lemnius*.

KEYWORDS: Hemiptera, Lygaeidae, *Lemnius*, new species, Australia.

### INTRODUCTION

*Lemnius* Distant belongs to the tribe Drymini Stål. Characters distinguishing the Drymini from the apparently related Targaremini Ashlock were given by Ashlock (1964) and from the other tribes of Rhyparochrominae in the key by Sweet (1967). The type-species of *Lemnius*, *L. ovatus* Distant, 1904, was described from Sri Lanka; the other species currently placed in this genus are *L. nigrinus* (Distant, 1918) (Burma) (transferred from *Thebanus* Distant by Scudder (1967)) and *L. bakeri* Bergroth, 1918 (Philippines). Slater (1964) listed the references to the genus and its species.

*Lemnius* is here recorded from north-eastern Australia. *L. monteithi* sp. nov. is known only from Cape York Peninsula, *L. terraereginae* sp. nov. from Queensland and northern New South Wales.

In the following description all measurements are in millimetres. CC = distance between apex of claval commissure and apex of corium, CM = distance between apex of corium and apex of membrane, both measured parallel to median axis of body. Length of labial segment I is measured from the clypeolabral suture.

Abbreviations for institutions and collections: ANIC Australian National Insect Collection, CSIRO, Canberra; BMNH British Museum (Natural History), London; NTM Northern Territory Museum, Darwin; QM Queensland Museum, Brisbane; SAM South Australian Museum, Adelaide; UQIC University of Queensland Insect Collection, Brisbane.

### SYSTEMATICS

#### *Lemnius* Distant

*Lemnius* Distant, 1904: 66-67; Slater 1964:944 (literature references) (type-species *Lemnius ovatus* Distant, 1904:67, monobasic).

**Diagnosis.** Body not dorsoventrally flattened, with length ♂ *ca* 2.7-3.8, ♀ *ca* 2.2-2.5 × maximum width. Head wider than long, punctate above and below; eyes not prominent; antennae with semirecumbent pubescence and with erect hairs longer than diameter of segments, segment I swollen in distal 1/2, other segments slender, linear. Pronotum, scutellum and hemelytra with semierect hairs. Pronotum with anterior and posterior lobes not sharply demarcated, both deeply punctate; lateral margins narrowly carinate, anteriorly convergent, slightly to distinctly concave near middle. Fore femur with ventral row of bristle-like spines. Scutellum with punctures similar to those of pronotum; with a dark, narrow, Y-shaped carina. Metapleural evaporative area and scent gland peritreme very small; peritreme angulate, with apical part directed obliquely posterolaterally. Clavus with 3 rows of fine punctures. Corium with fine punctures similar to those of clavus, 2 rows parallel to claval suture and separated from each other by a broad impunctate area, outer row separated from remaining punctures by another impunctate area widening apically, a third impunctate subcostal area greatly expanded in *ca* apical 1/2-2/3; costal margins narrowly carinate.

**Notes.** *Lemnius* is very close to *Thebanus* Distant, 1904, differing mainly in having a narrower and more raised scutellar carina. The structure of this carina varies among the species of both genera and it is possible that the latter should be synonymised. However, it is felt that a decision on this matter should be left to workers in the Oriental region, where probably many more species in this complex remain to be discovered, and where extensive series are available.

In the key to Australian and New Guinea Drymini genera by Gross (1965) the *Lemnius* keys out to *Mizaldus* Distant. However it differs from the latter in lacking a distinct dorsal transverse constriction separating fore and hind lobes of pronotum.

#### Key to Species of *Lemnius*

1. Antennae wholly or at least with segments I and II infuscated. Femora dark reddish brown to black. Scutellum entirely black, or reddish brown posteriorly ..... 2  
 Antennae wholly yellowish brown. Femora stramineous to light reddish brown, scutellum yellow or orange-brown posterolaterally on each side of dark median carina ..... 3
2. Pronotum with lateral margins very shallowly concave (similar to Fig. 4). Antennae with all segments dark testaceous. Pronotum and scutellum black. Philippines ..... *bakeri* Bergroth  
 Pronotum with lateral margins deeply concave (as in Fig. 1). Antennae with segment II and segment IV except at extreme base yellowish brown; remainder infuscated reddish brown. Pronotum and scutellum reddish brown posteriorly, paler than anteriorly. Sri Lanka .....  
 ..... *ovatus* Distant
3. Pronotum (Fig. 4) with lateral margins very slightly concave near middle; with fine punctures mostly more than 1 puncture-width apart. Australia .....  
 ..... *terraereginae* sp. nov.  
 Pronotum with coarse punctures mostly about or less than 1 puncture-width apart (as in Fig. 1); with lateral margins more deeply concave than in Fig. 4 ..... 4
4. Pronotum with lateral margins deeply concave (Fig. 1). Males with body length 2.67-3-10; maximum width 1.02-1.22;

posterior width of pronotum 1.00-1.28. Australia ..... *monteithi* sp. nov.  
 Pronotum with lateral margins shallowly concave (intermediate between conditions shown in Figs 1 and 4). Male lectotype with body length 3.38; maximum width 1.45; posterior width of pronotum 1.67. Burma ..... *nigrinus* (Distant)

#### *Lemnius monteithi* sp. nov.

(Figs 1-3)

**Type material.** HOLOTYPE - ♂ (T10770), Iron Range, Cape York Pen., Queensland, 27.iv-4.v.1973, G.B. Monteith, in QM. PARATYPES - 12 ♂, 17 ♀ same data as holotype, in ANIC, BMNH, NTM, QM, SAM, UQIC; 1 ♂, 1 ♀, same data except 13-14. xi. 1965, in QM; 2 ♂, 5 ♀, same data except 16-23. xi. 1965, in QM, UQIC; 5 ♀, same data except 28. iv - 4. v. 1968, in QM, UQIC; 1 ♂, 1 ♀, West Claudie R., Iron Range, 30. ix. 1974, G.B. Monteith, in QM; 1 ♀, Rocky R., via Coen, Cape York Pen., 14-16. xii. 1964, G.B. Monteith, in QM; 1 ♀, Upper Lankelly Creek,

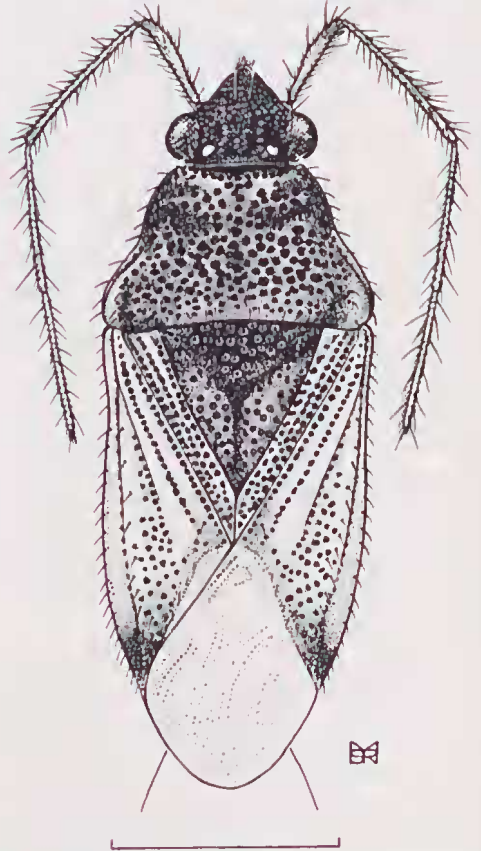


Fig. 1. *Lemnius monteithi* holotype ♂, dorsal aspect. Scale line 1.0mm.



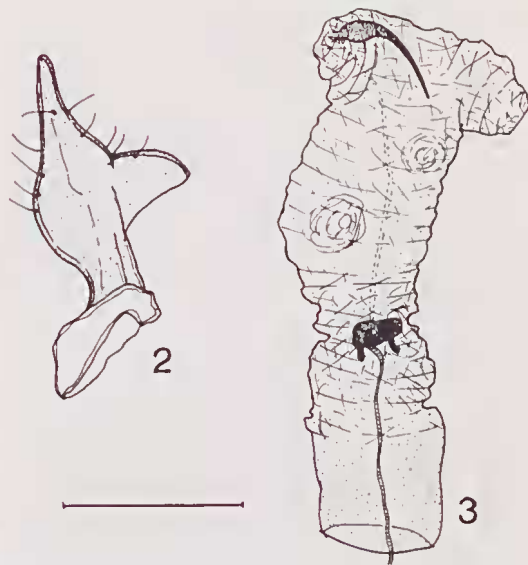
Coen district, Queensland, 10-11. vi. 1971, G.B. Monteith, in QM.

**Description.** *Coloration:* Head above and below dark reddish brown. Antennae yellowish brown. Labium stramineous to pale reddish brown. Eyes reddish brown to black. Ocelli red. Pronotum nearly uniformly yellowish brown or brown; anterior margin and calli darker brown; punctures dark brown. Scutellum yellow to orange-brown posterolaterally; carina and entire base between its anterior arms reddish brown; punctures dark brown. Corium and elavus greyish cream to light greyish brown; impunctate subcostal area opaque, usually off-white to cream; apex and apical margin of corium narrowly brown; punctures brown. Membrane colourless, translucent; veins pale. Ventral surface of thorax dark reddish brown; abdomen lighter reddish brown. Legs stramineous to light reddish brown.

*Body:* Total length 3.10 (♂ 2.67-3.10, ♀ 2.95-3.43); maximum width behind scutellum 1.22 (♂ 1.02-1.22, ♀ 1.18-1.37).

*Head:* Length 0.63 (♂ 0.55-0.63, ♀ 0.55-0.67); width across eyes 0.70 (♂ 0.61-0.71, ♀ 0.67-0.75); interocular space 0.39 (♂ 0.33-0.39, ♀ 0.35-0.41); width of eye 0.16 (♂ 0.14-0.17, ♀ 0.16-0.17). Dorsal surface deeply, closely, and rather coarsely punctate, with a median shagreened area interrupted by very coarse punctures; with erect and suberect hairs, a particularly long pair of erect hairs on each side lateral to ocelli. Ventral surface with punctures finer, sparser and more shallow. Length of antennal segments I 0.47 (♂ 0.38-0.49, ♀ 0.43-0.49), II 0.78 (♂ 0.69-0.78, ♀ 0.73-0.86); III 0.73 (♂ 0.65-0.73, ♀ 0.69-0.78), IV 0.71 (♂ 0.57-0.71, ♀ 0.63-0.71). Length of labial segments I 0.49 (♂ 0.41-0.49, ♀ 0.47-0.49), II 0.53 (♂ 0.45-0.53, ♀ 0.51-0.57), III 0.29 (♂ 0.27-0.31, ♀ 0.29-0.33), IV 0.26 (♂ 0.24-0.26, ♀ 0.24-0.25).

*Thorax:* Pronotum coarsely and closely punctate throughout, punctures mostly separated by less than one puncture-width; lateral margins deeply concave near middle; median length 0.73 (♂ 0.55-0.73, ♀ 0.65-0.82); posterior width 1.28 (♂ 1.00-1.28, ♀ 1.18-1.41). Scutellum finely and closely punctate anteriorly and along lateral margins, more coarsely and usually more sparsely punctate on each side of median carina; median length 0.96 (♂ 0.71-0.96, ♀ 0.80-1.00); anterior



Figs 2-3. *Lemnius monteithi* paratype ♂: 2, left paramere, dorsal aspect; 3, aedeagus. Scale line 0.01 mm.

width 0.75 (♂ 0.59-0.75, ♀ 0.65-0.84). Punctures of clavus and corium finer than most of those on pronotum and posterolateral areas of scutellum. Length of elaval commissure 0.20 (♂ 0.14-0.22, ♀ 0.18-0.23), corium 1.71 (♂ 1.37-1.71, ♀ 1.55-1.95), CC 0.69 (♂ 0.55-0.69, ♀ 0.65-0.73), CM 0.47 (♂ 0.43-0.49, ♀ 0.47-0.61). Fore femur with anteroventral row of 3 or 4 long, dark, needle-like spines and a posteroventral row of 5-7 finer, pale long hairs.

*Abdomen:* Ventral surface with a covering of short, fine, depressed hairs. Ventral trichobothria on sterna III and IV arranged in triangle. Scent gland scar between terga III-IV about  $1\frac{1}{2} \times$  as wide as those between terga IV-V and V-VI which are subequal.

*Male genitalia:* pygophore posterior margin rounded; paramere short, flat, with well developed inner lobe at about half length (Fig. 2); aedeagus (Fig. 3), phallosome lightly sclerotized, conjunctiva and vesica with membranous lobes, ejaculatory reservoir reduced, complete with body and wings as in Fig. 3, helicoid process indistinct, gonoporal process short, heavily sclerotized as in Fig. 3.

*Female genitalia:* ovipositor well developed, 1st ramus traversing to about  $\frac{3}{4}$  length of 1st gonapophysis; spermatheca indistinct, possibly absent.

*Lemnius terraereginae* sp. nov.

(Fig. 4)

**Type material.** HOLOTYPE - ♂ (T10771), Lockerbie area, Cape York, Queensland, 13-27. i.v. 1973, G.B. Monteith, in QM. PARATYPES - 18 ♂, 17 ♀, same data as holotype, in ANIC, BMNH, NTM, SAM, UQIC; 7 ♂, 5 ♀, Lockerbie Scrub, Cape York, 14-18. iv. 1973, G.B. Monteith, in QM, UQIC; 2 ♂, same data except 19-21. iv. 1973, in QM.

**Additional material.** QUEENSLAND: 1 ♂, Kenilworth State Forest, 17. viii. 1970, G.B. Monteith, in QM; 2 ♀, Granite Creek, 700' [214 m], Bulburin State Forest, via Many Peaks, 1.iv. 1972, S.R. Monteith, in QM; 1 ♂, 1 ♀, Lake Placid nr Cairns, 18. xii. 1974, M.B. Malipatil, in QM; 1 ♂, Kuranda, 20. i 1962, E.B. Britton, in BMNH. NEW SOUTH WALES: 1 ♀, Richmond Gap, via Grevillea, 1700' [517 m], 7.i 1978, G.B. Monteith, in QM.

**Description.** In the following description B = Bulburin S.F., K = Kenilworth S.F.

**Coloration:** Head above dark reddish brown to black, below reddish brown. Antennae yellowish brown. Labium stramineous. Eyes reddish brown to black. Ocelli red. Pronotum with anterior lobe dark reddish brown, paler anteriorly and on lateral carinae; posterior lobe broadly paler reddish brown in middle (sometimes diffusely) and inside humeral angles, pale yellow laterally; punctures dark brown. Scutellum pale yellow posterolaterally; carina and entire base between its anterior arms reddish brown; apex on each side of median stem of carina variably and diffusely paler reddish brown; punctures dark brown. Corium and clavus silvery grey to off-white; impunctate area outside second row of eorial punctures, at least apically, and impunctate subcostal area translucent; apex and apical margin of corium narrowly brown; punctures brown. Membrane colourless, translucent; veins pale. Ventral surface of thorax dark reddish brown; abdomen lighter reddish brown. Legs stramineous; coxae, acetabula and scent gland peritreme ochreous.

**Body:** Total length 2.86 (♂ 2.81-3.19, K 3.29; ♀ 3.00-3.76, B 3.95-4.05); maximum width behind scutellum 1.24 (♂ 1.24-1.39, K 1.41; ♀ 1.29-1.57, B 1.69-1.76).

**Head:** Length 0.59 (♂ 0.59-0.65, K 0.61; ♀ 0.59-0.67, B 0.67); width across eyes 0.70

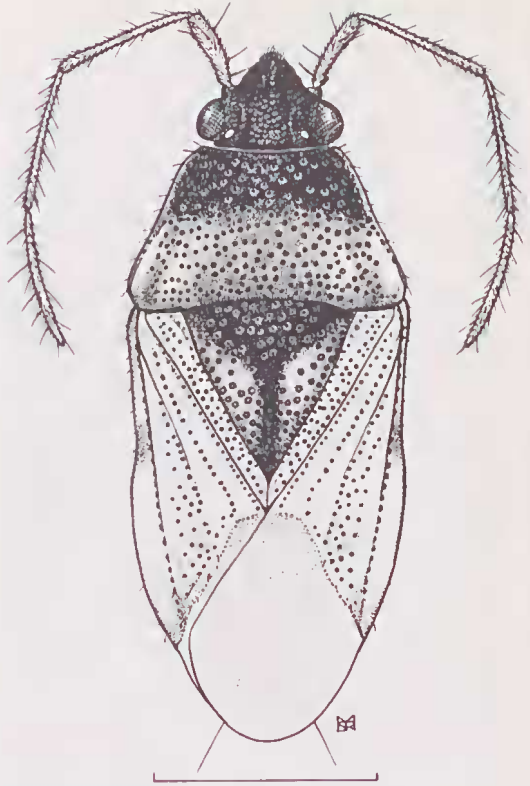


Fig. 4. *Lemnius terraereginae* holotype ♂, dorsal aspect. Scale line 1.0mm.

(♂ 0.69-0.76, K 0.73; ♀ 0.71-0.78, B 0.81); interocular space 0.41 (♂ 0.39-0.43, K 0.43; ♀ 0.39-0.47, B 0.49; width of eye 0.15 (♂ 0.14-0.17, K 0.15; ♀ 0.16-0.18, B 0.16). Dorsal punctation and setation similar to those of *L. monteithi* except punctures much finer. Ventral surface with punctures more closely and much more finely punctate than in *L. monteithi*, giving granulate appearance. Length of antennal segments I 0.37 (♂ 0.37-0.39, K 0.41; ♀ 0.34-0.41, B 0.43-0.47), II 0.67 (♂ 0.67-0.75, K 0.76; ♀ 0.63-0.76, B 0.82-0.84), III 0.67 (♂ 0.65-0.73, K 0.73; ♀ 0.61-0.75, B 0.78-0.80), IV 0.69 (♂ 0.65-0.71, K 0.73; ♀ 0.61-0.69, B 0.73-0.74). Length of labial segments I 0.45 (♂ 0.43-0.47, K 0.47; ♀ 0.45-0.51, B 0.51-0.53), II 0.49 (♂ 0.47-0.53, K 0.53; ♀ 0.53-0.59, B 0.59), III 0.29 (♂ 0.27-0.29, K 0.29; ♀ 0.29-0.37, B 0.33), IV 0.24 (♂ 0.24-0.25, K 0.25; ♀ 0.24-0.27, B 0.29).

**Thorax:** Pronotum (Fig. 4) with fine punctures mostly more than 1 puncture width apart, closer on median part of posterior

lobe, sparser on anterior than on posterior lobe; with lateral margins very slightly concave near middle; median length 0.71 (♂ 0.71-0.76, K 0.73; ♀ 0.71-0.92, B 0.92); posterior width 1.29 (♂ 1.29-1.41, K 1.39; ♀ 1.33-1.59, B 1.71-1.72). Scutellum with punctuation similar to that of *L. monteithi*; median length 0.92 (♂ 0.92-1.00, K 0.96; ♀ 0.94-1.20, B 1.20-1.25); anterior width 0.78 (♂ 0.78-0.86, K 0.83; ♀ 0.82-1.02, B 1.08-1.12). Corium and clavus with punctuation similar to that of *L. monteithi*, but rather finer. Length of claval commissure 0.16 (♂ 0.14-0.18, K 0.18; ♀ 0.16-0.20, B 0.25), corium 1.57 (♂ 1.57-1.75, K 1.76; ♀ 1.67-1.98, B 2.12-2.16), CC 0.59 (♂ 0.59-0.67, K 0.65; ♀ 0.61-0.75, B 0.80-0.84), CM 0.53 (♂ 0.51-0.57, K 0.65; ♀ 0.55-0.65, B 0.78-0.82). Fore femur with spination similar to that of *L. monteithi*.

**Abdomen:** Ventral surface with hairs longer than in *L. monteithi*.

Other details as in *L. monteithi*.

**Comments.** *L. terraereginae* is readily distinguished from *L. monteithi* by the characters given in the key and the other differences noted in the description. The non-type specimens from south-east Queensland resemble the north Queensland type series in all structural features, but their measurements except for eye width, fall in the top range of or in most instances exceed those of the latter. The occurrence of an otherwise northern species in the Kenilworth and Bulburin State

Forests is interesting; some species of Aradidae have a similar disjunct distribution, involving both these southern areas (G. B. Monteith, pers. comm.).

#### ACKNOWLEDGEMENTS

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